

AMENDMENTS TO THE CLAIMS

I claim:

1. (Currently amended) A wiring network for a structure having a composite fabrication assembly made of a plurality of layers of composite materials for connecting components outside of the structure for sending and receiving transmittable information between the components, the wiring network comprising:
 - a. a plurality of conductive conduits placed between layers of the assembly, each having opposite ends;
 - b. a first and a second gateway connected to opposite ends~~one end~~ of each conduit and positioned to select one of the conduits for communication between the gateways; and
 - ~~e. a second gateway connected to the other end of each conduit; and~~
 - d. c. means~~a controller~~ for controlling selecting one of the conduits ~~a conduit~~ from the plurality of conduits ~~and for selecting and directing transmittable information over the selected conduit.~~
2. (Original) The wiring network of claim 1, further including multiple component specific conduits between the gateways and a specific component.
3. (Currently amended) The wiring network of claim 1, wherein the first gateway is a computer-controlled selector bus, wherein the plurality of conductive conduits is a first plurality of conductive conduits, wherein the means for controlling selecting includes a wiring computer, and wherein the wiring network further comprises:
 - a second plurality of conductive conduits placed between layers of the assembly, each having opposite ends;
 - a third and a fourth gateway connected to opposite ends of each of the second plurality of conduits, the third gateway a computer-controlled selector bus connected to the wiring computer and positioned to select one of the conduits of the second plurality of

conduits for direct communication between the third, fourth, and first gateways; and
wherein

the wiring computer controls selecting one of the conduits of the second plurality
of conduits positioned between the third and the fourth gateways to maintain control of
the first gateway plurality of conduits comprise electrical wires.

4. (Currently amended) The wiring network of claim 1, wherein the layers are of a fabric made of woven, high-strength fibers, impregnated with resin~~the plurality of conduits comprise optical fibers.~~
5. (Previously presented) The wiring network of claim 1, wherein each of said gateways is a selector bus.
6. (Original) The wiring network of claim 1, wherein each gateway is placed between layers of the assembly with the respective conduit end attached to the gateway within the layers, the gateway further including a terminal for connecting a component to the gateway externally of the layers.
7. (Currently amended) The wiring network of claim 1, wherein said means for controlling selecting includes ~~controller is~~ a programmable server.
8. (Original) The wiring network of claim 7, wherein multiple conduits between gateways are associated with each externally connected component and wherein the server is adapted for selecting any of a plurality of conduits for transmitting information between gateways to selected components.
9. (Original) The wiring network of claim 8, wherein the selection of conduits is based on a predetermined hierarchy.

10. (Original) The wiring network of claim 9, wherein the hierarchy is adapted for selecting the conduit of least resistance.
11. (Original) The wiring network of claim 9, wherein the hierarchy is adapted for selecting the shortest conduit between selected components and related gateways.
12. (Original) The wiring network of claim 7, further including a conduit selector on each gateway.
13. (Original) The wiring network of claim 1, wherein said structure comprises a vehicle having a central control center and a plurality of components located remotely from the central control center and controlled from the central control center, and wherein at least one gateway is accessible by the control center and at least another gateway is accessible by each of the remote components.
14. (Currently amended) The wiring network of claim 13, wherein the vehicle comprises an aircraft having a cockpit, the means for controlling selecting controller being located in the cockpit and connected to the first gateway and a remote component being located outside the cockpit and connected to the second gateway.
15. (Currently amended) A wiring system for an aircraft comprising an outer structure having a composite fabrication assembly made of a plurality of layers of composite materials for connecting components outside of the structure for sending and receiving transmittable information between the components, the wiring system comprising:
 - a. a plurality of conductive conduits placed between layers of the assembly, each having opposite ends;
 - b. ~~a first and second gateway means connected to opposite ends one end of each of the conduits conduit for selecting one of the conduits for communication between the gateway means; and~~
 - c. ~~a second gateway connected to the other end of each conduit; and~~

~~d.c. means a controller~~ for controlling selecting one of the conduits ~~a conduit~~ from the plurality of conduits ~~and for selecting and directing the~~ transmittable information over the selected conduit.

16. (Currently amended) The wiring system of claim 15, wherein the aircraft includes further including a cockpit, wherein the wiring system further includes a ~~with the~~ controller located in the cockpit and connected to the first gateway means, and wherein ~~and~~ one of the components is located outside of the cockpit and connected to the second gateway means.

17. (Currently amended) The wiring system network ~~of~~ claim 15, wherein said means for controlling selecting includes controller ~~is~~ a computer, and wherein the layers of composite materials are of a fabric made of woven, high-strength fibers, impregnated with resin.

18. (Currently amended) A wiring system for an aircraft comprising an outer structure having a composite fabrication assembly made of a plurality of layers of composite materials for connecting components adjacent the structure for sending and receiving transmittable information between the components, the wiring system comprising:

- a. a plurality of conductive conduits placed between layers of the assembly, each having opposite ends;
- b. a first and a second gateway connected to opposite ends ~~one end~~ of each of the conduit ~~conduit~~ and positioned to select one of the conduits for communication between the gateways; and
- ~~c. a second gateway connected to the other end of each conduit; and~~
- cd. a server electrically or optically connected to at least one of the gateways and positioned to instruct the ~~for instructing~~ at least one of the gateways to select one of the conduits ~~a conduit~~ from the plurality of conduits to carry ~~for carrying~~ transmittable information over the selected conduit.

19. (Currently amended) The wiring system of claim 18, wherein the one of the conduits ~~conduit~~ is a first conduit ~~of the plurality of conduits~~, wherein the at least one of the gateways is a first

and a second gateway, and wherein the server determines the condition and usage of each of the plurality of conduits between the first and second gateways and instructs the gateways to select a second conduit ~~of the plurality of conductive conduits~~ when the server determines the first conduit to be unusable.

20. (Currently amended) The wiring system of claim 19~~15~~, wherein the aircraft includes a cockpit, wherein the wiring system further includes~~including a cockpit with~~ a cockpit controller located in the cockpit and connected to the first gateway, ~~and wherein~~ one of the components is located outside of the cockpit and connected to the second gateway, and wherein the layers of composite materials are of a fabric made of woven, high-strength fibers, impregnated with resin.